435.36
04/08/2004
Rev. 05

NEW SITE IDENTIFICATION (NSI)

Part A – NEW SITE IDENTIFICATION INFORMATION (To be completed by the Task Lead for New Site)	
1. **Site Title:** **CPP-111: Release in CPP-604 Access Corridor** (Use known common names, location descriptors and or processes near or associated with the suspected inactive waste site.)	**Site Code:** CPP-111 **NSI Evaluation Initiation Date:** February 2003
2. **Task Lead For New Site:** Lee Tuott	Phone: 526-7990
3. **NSI Coordinator: Nielson Burch**	Phone: 526-5676
4. **Initiator or Initial Observer:** Lee Tuott	Phone: 526-7990

5. **Location of the Suspected New Site:** (A location map and/or diagram identifying the site against controlled survey points or global positioning system descriptors may be included.)

This new site identification form is for contamination potentially released to the environment from spills in CPP-604. During facility decontamination activities in the CPP-604 access corridor in January 2003, personnel identified an area where contamination appears to have been released to the environment in the vicinity of a sump. The decontamination activities were being performed in the service corridor, an area in the lowest level of the building. As part of decontamination activities, personnel were removing contaminated materials that had accumulated in the proximity to pipe cleanout sumps (see Attachment 1, Detail #5). This cleanout sump is a "concrete box" with a metal plate cover. The sumps are approximately 18 x 18 inches wide and 9 inches deep.

Personnel were removing contaminated material in the concrete box in the proximity of the cleanout, thought to be primarily dirt that had accumulated around the cleanout. However, during removal of the contaminated material, the worker identified that the concrete box was not intact - there was a continuation of the contaminated material and what appeared to be crumbled concrete. Preliminary information on radioactive contamination of the removed material identified contamination levels of 12 mR/hr at contact. Operators identified several spill events that could have contributed to the contamination/elimination of concrete around the cleanout. The main events that caused contamination in this area were associated with a backup of drain lines for WL-102 that occurred in the late 1960's and early 1970's. The effluent from the drain lines backed up onto the condensate cell floor and would have accumulated in the area of this cleanout. Another spill occurred in the late 1970's when one of the condensate tanks overflowed onto the floor. The material that was spilled was nitric acid at approximately 1-3 molar. The exact volumes of material spilled during these events and mass balance of material removed during cleanup is not available.

NEW SITE IDENTIFICATION (NSI)

6. **Describe the observed conditions that indicate a suspect new site:**
The cleanout sump is a concrete box covered with a metal plate. Personnel were removing contaminated material in the cleanout sump, thought to be primarily dirt that had accumulated around the cleanout. However, during the removal of the contaminated material, the worker identified that the cleanout sump was not intact. The concrete floor of the cleanout sump were found to be deteriorated and the crumbled concrete was found to be contaminated. Preliminary information on the materials identified contamination levels of 12 mR/hr at contact. Because of its vicinity to the releases, another cleanout sump (see Attachment 1, cleanout pipe 3" PWL 40232C) at the north end of the access corridor near the stairwell was inspected. This inspection revealed that it too had received waste and it was in a similar condition as the first sump. Therefore, it is assumed that materials that entered/ accumulated in the sumps were released to the environment.

Part B – SUSPECTED NEW SITE INVESTIGATION AND RECOMMENDATION
(To be completed by the Task Lead for New Site, except Block 3 which is to be completed by the Responsible Manager)

NEW SITE IDENTIFICATION (NSI)

1. **Document all existing information including historical, process, screening data, analytical data, radiological surveys etc.** (Attach supporting documentation)

This site is associated with the INTEC Process Equipment Waste Evaporator (PEWE) System (Attachment 2). The processes and waste streams associated with these releases, as described in Part A stem from the intermediate level liquid waste process associated with the PEWE system located in CPP-604. The PEWE system was completed and became operational in 1953. It received and processed intermediate level wastes from fuel reprocessing campaigns regularly until 1994, when routine fuel reprocessing was discontinued at INTEC, and it continues to be utilized to accommodate other ongoing processes, including decontamination and decommissioning activities. The PEWE system collects intermediate level wastes in one of the two Evaporator Feed Collection Tanks (WL-133 and WL-102). WL-102 is one of the primary sources of the releases being assessed in this document. WL-102 is an 18,400-gallon tank located in the CPP-604 east cell, 12.8 m (42 ft) below grade and supplied waste to the evaporator feed tank (WL-109) or directly to the Process Equipment Waste evaporator (WL-129). This tank receives wastes from a number of waste collection systems around INTEC, including: The PEW collection system for the Process Building, Laboratory Building, and Custom Process Area and Analytical Laboratories; Head end Processing Plant Waste System, via the west side waste holdup system; Fuel Receiving and Storage Building waste system; WCF waste system; NWCF low fluoride waste system (including the decontamination area); and by tank truck from other areas at the INEEL.

This system collects, segregates and treats intermediate level mixed wastes. The portion of the PEW system associated with this release includes a series of storage and treatment tanks and their associated infrastructure located in and adjacent to the CPP-604 Access Corridor. The releases were from a tank and piping that overflowed or released liquid wastes to the Access Corridor floor. The wastes then flowed into two cleanout sumps located in the corridor. The exact volume of material spilled during these events and the mass balance of material removed during cleanup is not available. Since the Access Corridor is located at the lowest level of CPP-604 environmental releases from these sumps would be near or directly to the top of the basalt bedrock beneath CPP-604, near the center of the building. The sumps are approximately 18 x 18 inches wide and 9 inches deep. Each sump is covered by a metal plate and contains a 3-in. diameter flanged cleanout pipe. Preliminary information on the materials identified contamination levels of 12 mR/hr at contact.

Listed below are the constituents anticipated to be present in this new site based on the list of constituents and concentrations detected in Sites CPP-87 and -89, which were also contaminated by PEWE wastes in the same vicinity.

Arsenic: 5.9 E +00 mg/kg
Mercury: 1.04 E +01 mg/kg
Selenium: 4.10 E-01 mg/kg
AM-241: 23.6 pCi/g
Cs-137: 7,730 pCi/g
Pu-238: 259 pCi/g
Pu-239/240: 24.7 pCi/g
Sr-90: 10,800 pCi/g
U-234: 5.1 pCi/g

Because of the depth of the releases (> 42 feet) and the fact that the unit is underneath building CPP-604, this site does not currently pose a significant external risk to human health or the environment under either a residential or an industrial scenario. In addition, because the building shields the contaminants from surface water and other sources of liquids, it does not pose a significant risk to the ground water systems. These assessments are based on the assumption that CPP-604 remains in place.

Additionally, other OU 3-13 CERCLA sites in the vicinity of CPP-604 have been contaminated by releases similar to the types and magnitude of contamination in CPP-111. These Group 2 sites (sites under facilities and structures) are CPP-87, CPP-604 vapor off-gas blower cell of sump and floor drain; and CPP-89, CPP-604/605 tunnel excavation from releases of waste transfer lines.

1a. **Is the site SWMU as defined in OSWER DIRECTIVE 9502.00-6?** ☐ **Yes** ☒ **No**

2. **Recommendation**

☐ Recommend not including as a new FFA/CO site. This site DOES NOT warrant further investigation, does not meet the criteria for acceptance, and should not be included under FFA/CO Action Plan.

☒ Recommend including as new FFA/CO site. This site DOES meet the criteria for acceptance, may warrant further investigation, and should be included under FFA/CO Action Plan.

Recommended WAG and Operable Unit to which site should be assigned:

WAG: 3 Operable Unit: 3-13, Group 2

NEW SITE IDENTIFICATION (NSI)

Recommended further action for this site:

☐ No Action ☐ No Further Action ☐ Track 1 ☐ Track 2 ☒ RI/FS

4 Responsible Manager Certification: I have examined the information submitted in this document and believe the information to be true, accurate, and complete.

Name: Martin Desrabos Signature: [signature] for DR Date: 9-10-04

NEW SITE IDENTIFICATION (NSI)

PART C – INEEL FFA/CO WAG MANAGERS CONCURRENCE	
Site Title: PP-111: Release in CPP-604 Access Cooridor	**Site Code:** CPP-111

DOE-ID WAG Manager Concurrence: ☑ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Kathleen E Hain Date: 5/24/05

Explanation: Site CPP-111 will be further investigated when building CPP-604 is D&Ded.

EPA WAG Manager Concurrence: ☑ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: [signature] Date: 6-20-05

Explanation: CPP-111 can be dispositioned in conjunction with the D&D of Building CPP-604.

State of Idaho WAG Manager Concurrence: ☐ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation:

NEW SITE IDENTIFICATION (NSI)

PART D – INEEL FFA/CO RESPONSIBLE PROGRAM MANAGERS (RPM'S) CONCURRENCE	
Site Title: CPP-100: Release in CPP-604 Access Coorridor	**Site Code:** CPP-111

DOE-ID FFA/CO RPM Concurrence: ☐ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation:

EPA FFA/CO RPM Concurrence: ☐ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation:

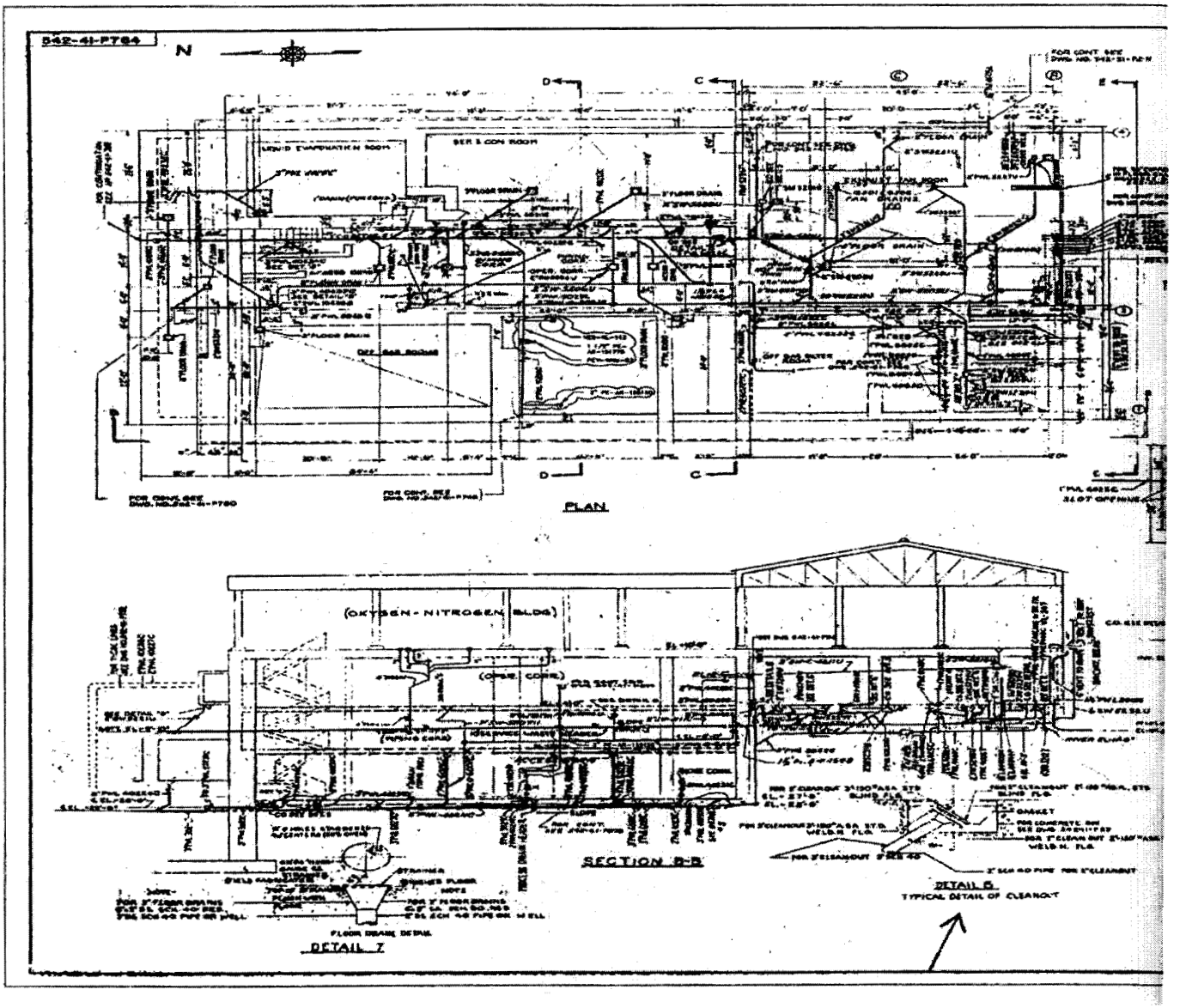
State of Idaho FFA/CO RPM Concurrence: ☑ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Daryl F. Koch Date: 5.24.05

Explanation:

I agree that the spills identified in the CPP-604 access corridor should be investigated when the facility is decommissioned and demolished.

ATTACHMENT 1



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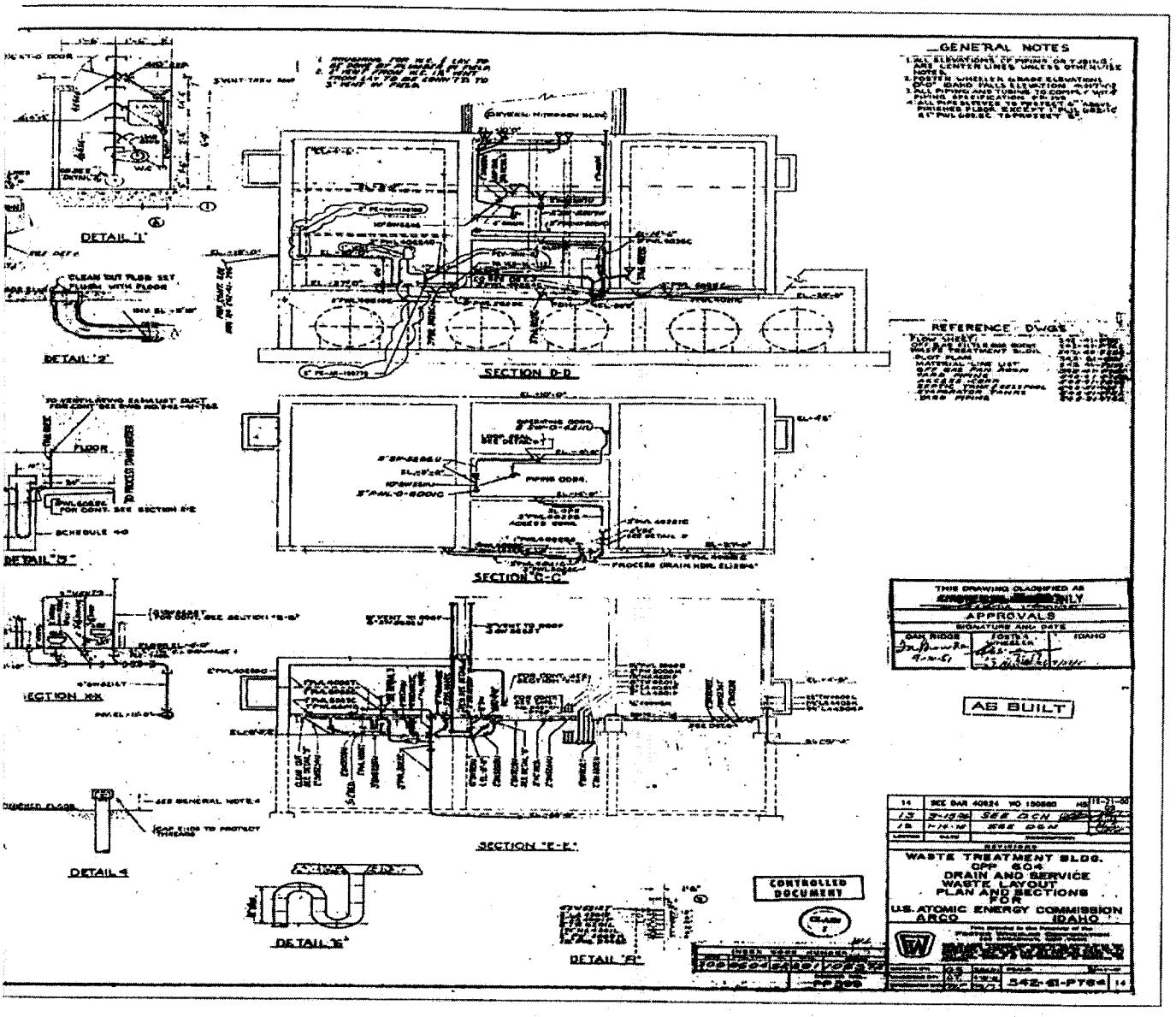
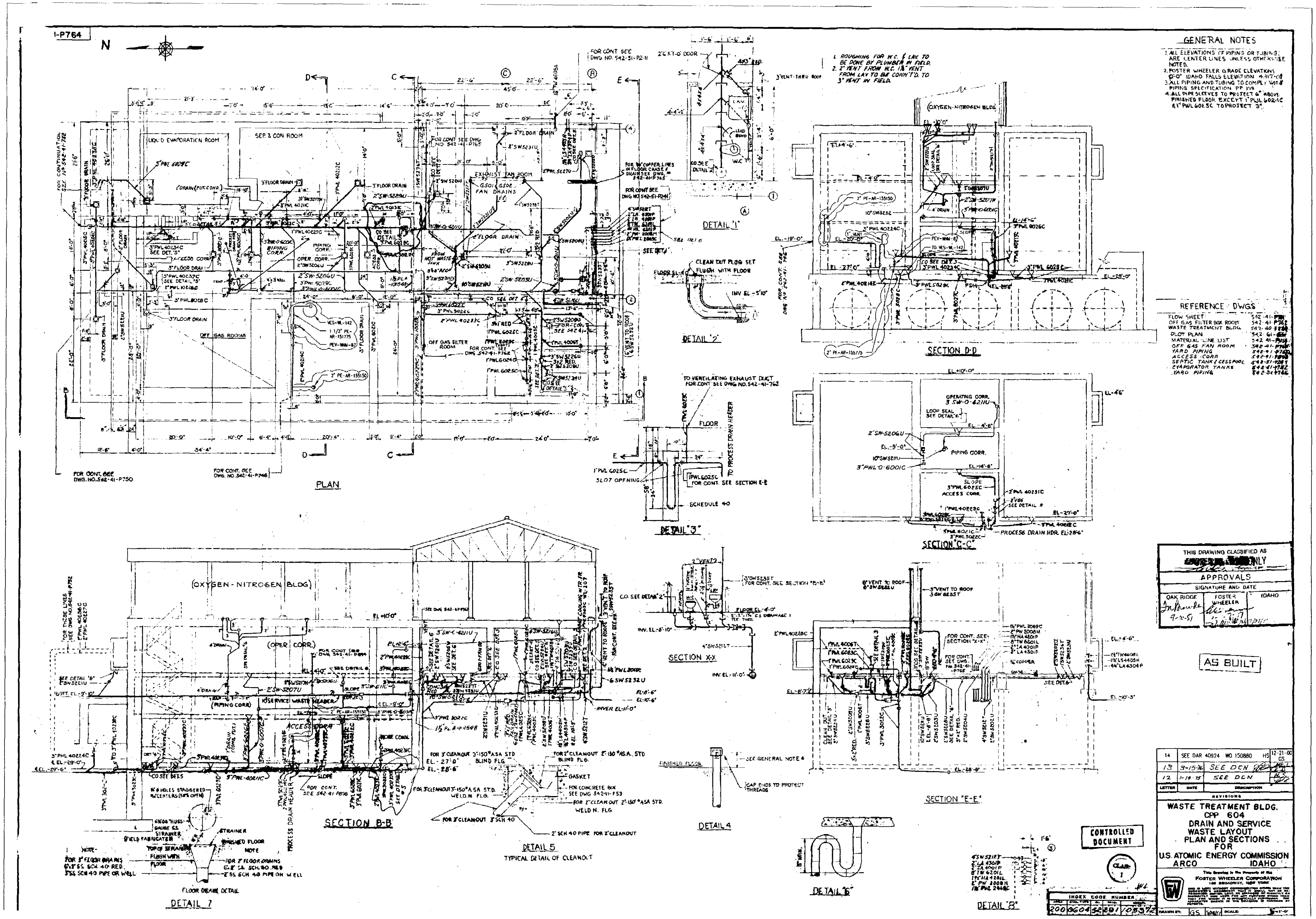
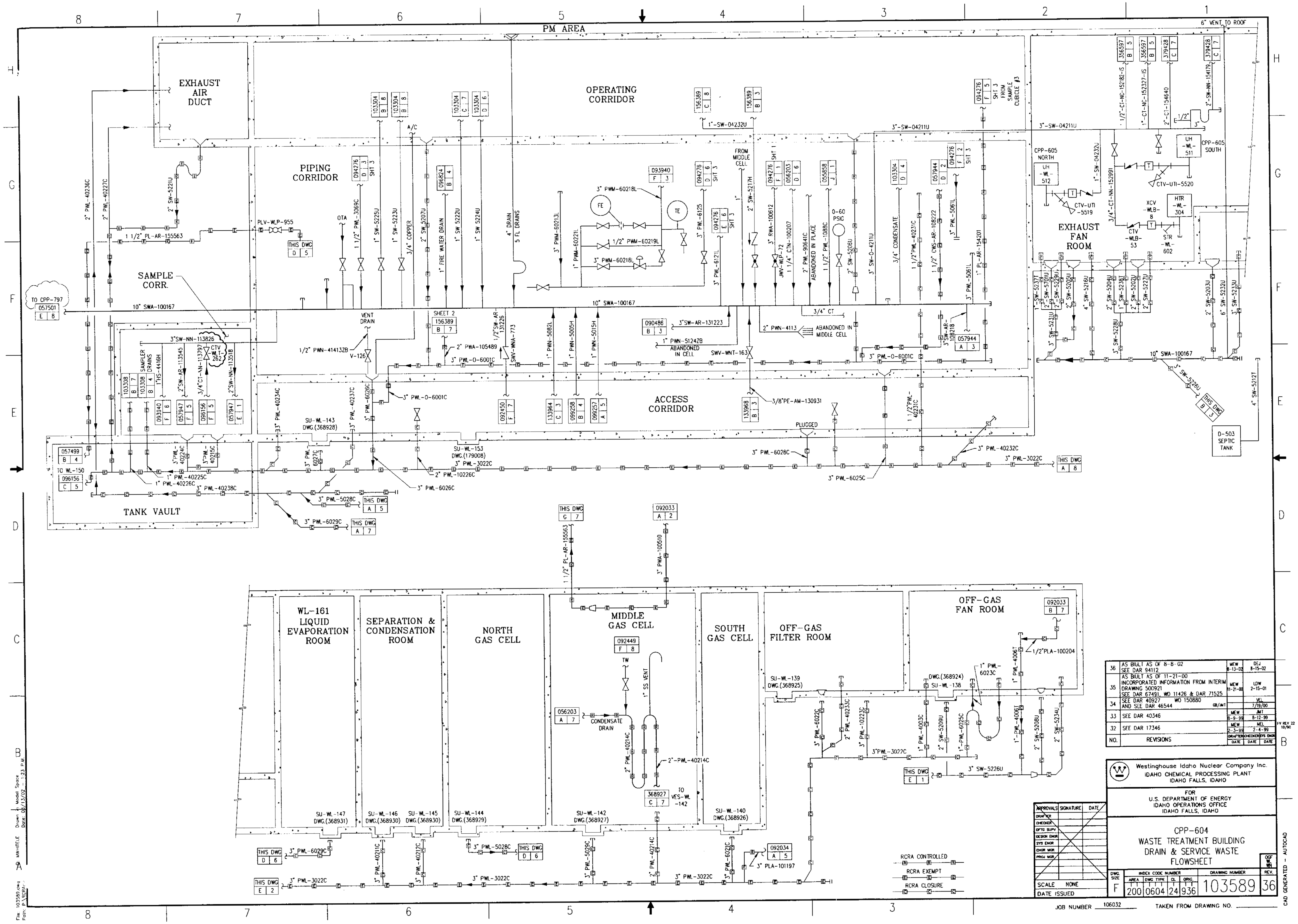

GENERAL NOTES
REFERENCE DWGS.
DETAIL '1'
DETAIL '2'
DETAIL '3'
DETAIL '4'
DETAIL '5'
DETAIL 'A'
SECTION D-D
SECTION C-C
SECTION E-E
SECTION XX
APPROVALS
AS BUILT
CONTROLLED DOCUMENT
WASTE TREATMENT BLDG.
CPP 604
DRAIN AND SERVICE
WASTE LAYOUT
PLAN AND SECTIONS
FOR
U.S. ATOMIC ENERGY COMMISSION
ARCO IDAHO
542-01-PT04


1-P764
N
PLAN
LIQUID EVAPORATION ROOM
SEP. & CON ROOM
EXHAUST FAN ROOM
OFF GAS ROOM
OFF GAS FILTER ROOM
DETAIL "1"
DETAIL "2"
DETAIL "3"
SECTION D-D
SECTION "C-C"
SECTION X-X
SECTION B-B
(OXYGEN - NITROGEN BLDG)
SECTION "E-E"
DETAIL 4
DETAIL 5
TYPICAL DETAIL OF CLEANOUT
DETAIL "6"
DETAIL 7
DETAIL "8"
GENERAL NOTES
1. ALL ELEVATIONS OF PIPING OR TUBING ARE CENTER LINES UNLESS OTHERWISE NOTED.
2. FOSTER WHEELER GRADE ELEVATIONS 0'-0" IDAHO FALLS ELEVATION 4917'-0"
3. ALL PIPING AND TUBING TO COMPLY WITH PIPING SPECIFICATION PP 359
4. ALL PIPE SLEEVES TO PROJECT 6" ABOVE FINISHED FLOOR EXCEPT 1" PWL 6024C & 1" PWL 6025C TO PROJECT 3".
REFERENCE DWGS
FLOW SHEET 542-41-
OFF GAS FILTER BOX ROOM 542-41-P762
WASTE TREATMENT BLDG. 542-40-
PLOT PLAN 542-61-
MATERIAL LINE LIST 542-41-
OFF GAS FAN ROOM 542-41-
YARD PIPING 542-41-
ACCESS CORR 542-41-
SEPTIC TANK & CESSPOOL 542-51-
EVAPORATOR TANKS 542-41-P742
YARD PIPING 542-51-P746
THIS DRAWING CLASSIFIED AS
[redacted]ONLY
APPROVALS
SIGNATURE AND DATE
OAK RIDGE
FOSTER WHEELER
IDAHO
AS BUILT
CONTROLLED DOCUMENT
14 SEE DAR 40924 WO 150880 HS 12-21-00 GS
13 3-15-76 SEE DCN
12 1-14-75 SEE DCN
LETTER DATE DESCRIPTION
REVISIONS
WASTE TREATMENT BLDG.
CPP 604
DRAIN AND SERVICE
WASTE LAYOUT
PLAN AND SECTIONS
FOR
U.S. ATOMIC ENERGY COMMISSION
ARCO IDAHO
This Drawing is the Property of the
FOSTER WHEELER CORPORATION
165 BROADWAY, NEW YORK
INDEX CODE NUMBER
DRAWN BY: GS
SCALE


PM AREA
EXHAUST AIR DUCT
OPERATING CORRIDOR
PIPING CORRIDOR
SAMPLE CORR.
ACCESS CORRIDOR
TANK VAULT
EXHAUST FAN ROOM
D-503 SEPTIC TANK
WL-161 LIQUID EVAPORATION ROOM
SEPARATION & CONDENSATION ROOM
NORTH GAS CELL
MIDDLE GAS CELL
SOUTH GAS CELL
OFF-GAS FILTER ROOM
OFF-GAS FAN ROOM
RCRA CONTROLLED
RCRA EXEMPT
RCRA CLOSURE
36 AS BUILT AS OF 8-8-02 SEE DAR 94112
35 AS BUILT AS OF 11-21-00 INCORPORATED INFORMATION FROM INTERIM DRAWING 500921 SEE DAR 67491, WO 11426 & DAR 71525
34 SEE DAR 40927 WO 150880 AND SEE DAR 46544
33 SEE DAR 40346
32 SEE DAR 17346
NO. REVISIONS
Westinghouse Idaho Nuclear Company Inc.
IDAHO CHEMICAL PROCESSING PLANT
IDAHO FALLS, IDAHO
FOR
U.S. DEPARTMENT OF ENERGY
IDAHO OPERATIONS OFFICE
IDAHO FALLS, IDAHO
CPP-604
WASTE TREATMENT BUILDING
DRAIN & SERVICE WASTE
FLOWSHEET
SCALE NONE
DATE ISSUED
F 200 0604 24 936 103589 36
JOB NUMBER 106032
TAKEN FROM DRAWING NO.
CAD GENERATED - AUTOCAD